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BCL

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/908,778 08/07/97 SCHEPS

R 77222

EXAMINER

LM02/0424

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ART UNIT

PAPER NUMBER

2713

DATE MAILED:

04/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/908,778

Applicant(s)

Scheps

Examiner

Gims Philippe

Group Art Unit

2713



☒ Responsive to communication(s) filed on Feb 18, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-6 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-6 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

CHRIS S. KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Response to Amendment

1. Applicant's amendment received on February 18, 2000 has been fully considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 U.S.C. § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-3, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Contarino et al. (US Patent no. 5,822,047).

Regarding claim 1, Contarino et al. discloses in fig. 3 the same imaging lidar comprising a pulsed laser for generating a line scan of light beam pulses to illuminate an area surrounding a target (See Contarino et al. pulsed laser 72, and col. 4, lines 6-16), a photomultiplier tube for detecting energy from the light beam pulses scattered by the target and for generating an output signal representative of the scattered light beam (See Contarino et al. fig. 3, photodetector 20, and col. 3, lines 41-51), an image acquisition controller coupled to the pulsed laser and to the

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photomultiplier tube for selecting pulse width and pulse rate of the light beam pulses and for generating a display signal from the output signal of the photomultiplier tube (See Contarino et al. col. 8, lines 1-15, and col. 6, lines 38-51), and a display coupled to the controller for generating an image from the display signal representative of the target (See Contarino et al. fig. 6, displays 84 and 89, and col. 8, lines 10-15).

As per claim 3, Contarino et al. further discloses the same imaging lidar wherein the pulse width is about 5ns (See Contarino et al. col. 6, lines 38-39).

As per claim 5, Contarino et al. further discloses the same imaging lidar wherein the controller gates the output signal from the multiplier tube to select a range interval that includes the target (See Contarino et al. col. 9-16).

Regarding claim 2, Contarino et al. further discloses the same imaging lidar wherein the laser has a wavelength corresponding to blue-green color (See Contarino et al. col. 2, lines 61-64).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Contarino et al.. (US patent no. 5,822,047) in view of Schneider (US Patent no. 5,082,362).

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As per claim 4, Contarino et al. discloses substantially the same limitations as previously set forth in the above rejection of claim 1.

It is noted that Contarino et al. fails to particularly disclose the same imaging system wherein the pulse rate is about 700 Khz.

Schneiter discloses the same imaging system wherein the pulse rate is about 700 Khz (See Schneiter col. 16, lines 31-33).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Ulich et al. and Schneiter before him/her, would recognize the advantage of using a 700Kz pulse, and would be motivated to modify Contarino et al.'s lidar system by providing Schneiter's pulse rate of about 700 Khz for the same purpose of giving finer control over the raster scan rate as taught by Schneiter.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Contarino et al. (US Patent no. 5,822,047) in view of Geiger (US Patent no. 5,117,126).

Regarding claim 6, Contarino et al. discloses substantially the same limitations as previously set forth in the above rejection of claim 1.

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It is noted that Contarino et al. fails to particularly disclose a periodically poled crystal gain element for generating laser output having frequency that is a multiple of a pumping frequency.

Geiger discloses a periodically poled crystal gain element for generating laser output having frequency that is a multiple of a pumping frequency (See Geiger col. 5, lines 45-56, and col. 6, lines 7-15).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Contarino et al. and Geiger before him/her, would have had no difficulty to modify Ulich et al.'s imaging lidar by incorporating the periodically poled crystal gain element for generating laser output having frequency that is a multiple of a pumping frequency for the same purpose of achieving a balance of the effective gain of the crystals as taught by Geiger (See Geiger col. 3, lines 51-60).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (703) 305-1107. The examiner can normally be reached on Monday through Friday from 8 a.m. to 4 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelly, can be reached on (703) 305-4856. The fax phone number for this Group is (703) - 308-9052 (formal responses) and (703) -308-5399 (for draft responses).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)-305-3900

Gims S. Philippe



April 19, 2000



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